

Curso: Mecanica - AD Professor: Turma: Disciplina: Professor: Data: / // Data:// Data://	Ministério da Educação UNIVERSIDADE FEDERAL DO PARANÁ Setor de Ciências Exatas		Nota:	
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$2f(0-1) = \lim_{N \to 0} f(0,-1+N) - f(0,-1) = 5.75-6 = -0.25 - 0.25$ $2) a) \lim_{N \to 0} \ln(1+x^2+y) cay = 1$ $1^2 \text{ with } \circ \qquad -1 \le cat = 1$ $-1 \le cat = 1 \le 1$ $-1 \le cat = 1$ $-1 \le cat = 1 \le 1$ $-1 \le cat = 1$		• •	5-11	-05~5
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$0 \leq \lim_{(x,y) \to (0,0)} x (1+x+y) \cos_{1} \underline{1} \leq 0$ $(x,y) \to (0,0) x^{2}+y^{2} $ $2^{\circ} \text{ gith: } \lim_{(x,y) \to (0,0)} x (1+x^{2}+y) \cos_{1} \underline{1} \underline{1} \underline{1} = 0$ $\lim_{(x,y) \to (0,0)} x^{2}+y^{2} $ $\lim_{(x,y) \to (0,0)} x^{2}+y^{2} = 0$	Aplicando limite fica	0.		
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2º jeito: lim en (1+x²+y) cos 1 = 0 (x,y)+(0,0)	(x, x)-4	·(o,o)	XZ	2
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iu 341	14-1-21	<u> </u>	1 - 161	G
	iu-341			17

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$$f(x_1y) = \frac{x^2 + 1/2}{y^2 + 1}$$
 $ky^2 + k = x^2 + y^2 \Rightarrow x^2 + (1 - k)y^2 = k$

So $k = 1$ o

 $x^2 = 1 \Rightarrow x = \pm 1$

So $k > 1$ o

 $x^2 + (1 - k)y^2 = 1$
 $x = 1 \Rightarrow x = \pm 1$

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$$\frac{\partial^2 \mu}{\partial t^2} = c^2 \frac{\partial^2 \mu}{\partial x^2}$$

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$$\frac{\partial \mu}{\partial x} = -\sin(x-\pi t) + 2\cos(x+\pi t)$$

$$\frac{\partial^2 \mu}{\partial x} = -\cos(x-\pi t) - 2\sin(x+\pi t)$$

$$\frac{\partial U}{\partial t} = -(\pi) \sec (x - \pi t) + 2\pi \cot (x + \pi t)$$

$$= \pi \sec (x - \pi t) + 2\pi \cot (x + \pi t)$$

$$\frac{\partial^{2} U}{\partial t^{2}} = -\pi^{2} \cot (x - \pi t) - 2\pi^{2} \sec (x + \pi t)$$

$$-\pi^{2} \cot (x - \pi t) - 2\pi^{2} \sec (x + \pi t)$$

$$-\pi^{2} \cot (x - \pi t) - 2\pi^{2} \sec (x + \pi t) =$$

$$= \pi^{2} \cot (x - \pi t) - 2c^{2} \sec (x + \pi t)$$

$$c^{2} \cot (x - \pi t) - 2c^{2} \sec (x + \pi t)$$

$$= \pi^{2} \cot (x - \pi t) + 2\cot (x + \pi t)$$

$$T^{2} = c^{2} \Rightarrow c = \pm \pi \Rightarrow \cos (x + \pi t)$$

$$= -\pi^{2} + 2\cot (x - \pi t) + 2\cot (x + \pi t)$$

$$= -\pi^{2} + 2\cot (x - \pi t) + 2\pi \cot (x + \pi t)$$

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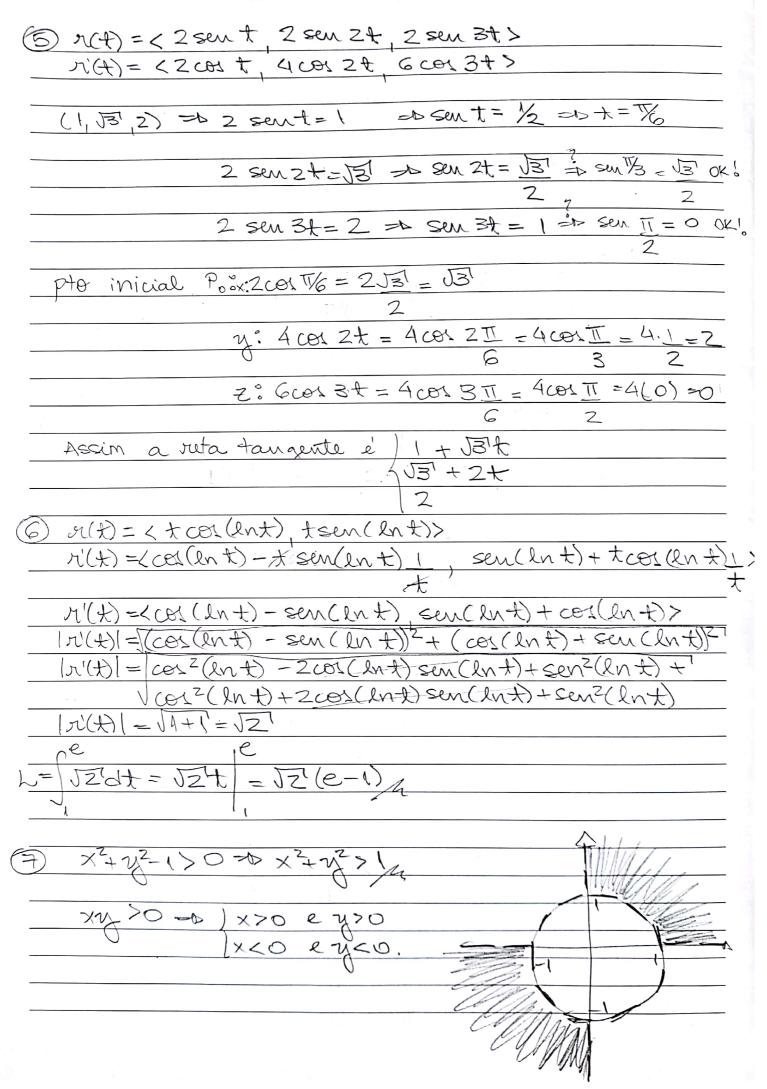
$$= \pi^{2} \cot (x - \pi t) + 2\cot (x + \pi t)$$

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$$= \pi^{2} \cot (x - \pi t) + 2\cot (x + \pi t)$$

$$= \pi^{2} \cot (x - \pi t) +$$



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